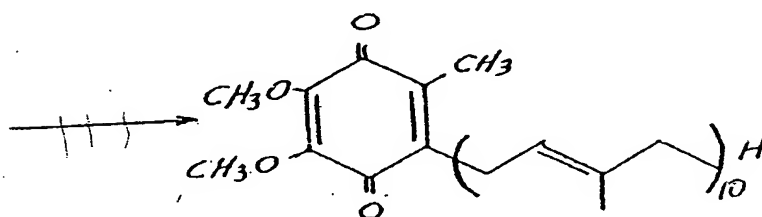


I Claim:

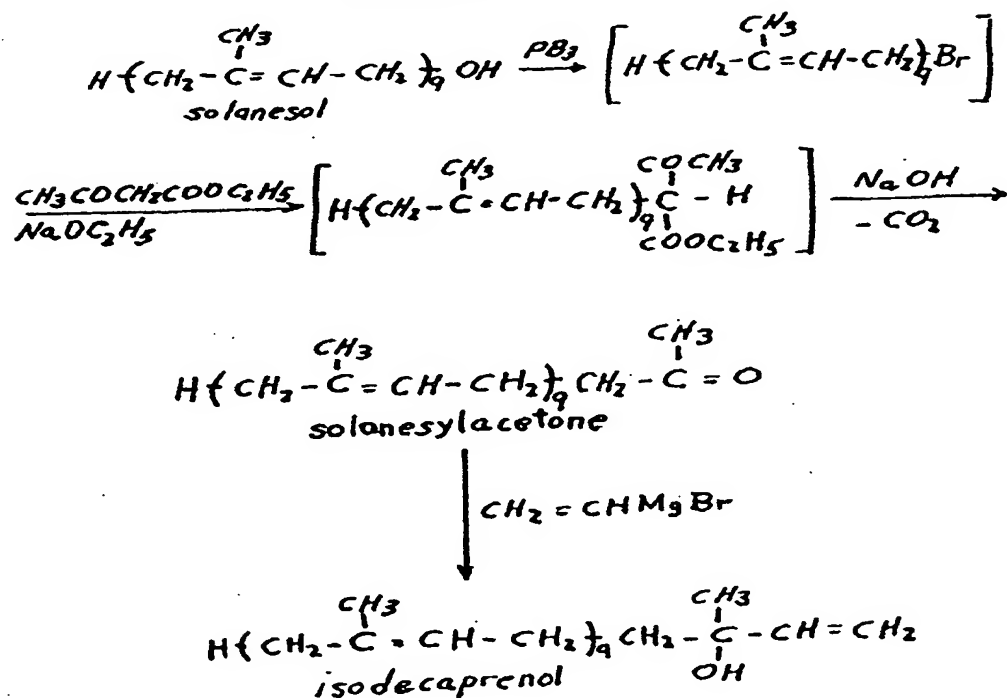
1. A stereospecific synthesis of optically pure trans (E) isomer of coenzyme Q 10 having the formula



*Ubiquinone*

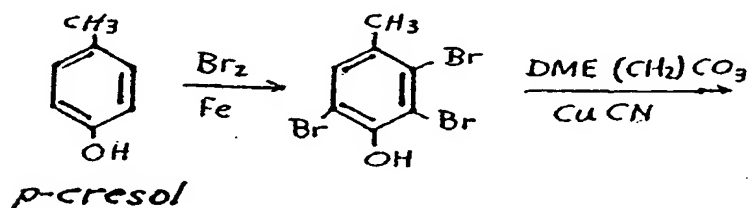
which comprises extracting solanesol from tobacco dust and using said solanesol as the starting material for carrying out the following sequence of reactions

*Solanesylacetone*

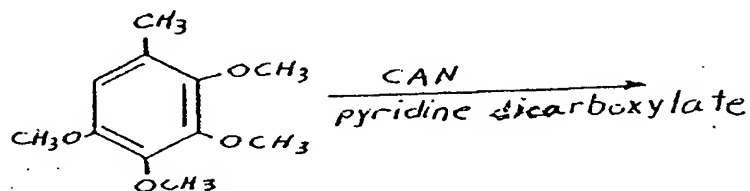


separately carrying out the following reactions:

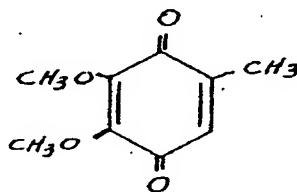
**2,3,6 - Tribromo- 4 - methylphenol**



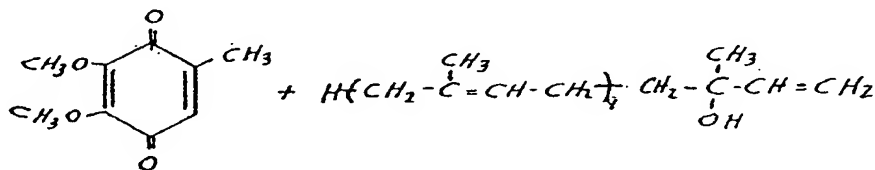
**2,3,4,5 - Tetramethoxytoluene**



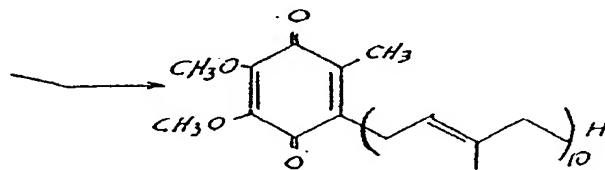
**2,3 - Dimethoxy- 5- methylhydroquinone**



thereafter reacting the isodecaprenol and 2,3-dimethoxy-5-methyl-hydroquinone to form the optical pure ubiquinone



2,3-dimethoxy-5-methylhydroquinone isodecaprenol



Ubiquinone

2. Method of treating impaired or damaged tissue in humans and animals <sup>to improve the condition of the heart</sup> which comprises administering a composition comprising as the principal active ingredient a therapeutically effective amount of optically pure trans (E) isomer of coenzyme Q 10 (2,3 - dimethoxy - 5 - methyl - 6 - decaprenyl - <sup>γ</sup>benzoquinone) in admixture with a pharmaceutically acceptable carrier.
3. The method of claim 2 wherein said composition is administered orally.
4. The method of claim 3 wherein said composition is administered in an amount of 15-400 mg pro die.
5. The method of claim 3 wherein said composition is administered in an amount of 100-200 mg pro die.
6. The method of claim 3 wherein said composition is administered in an amount of 15-30 mg pro die.
7. The method of claim 3 wherein said composition is in tablet form.
8. The method of claim 3 wherein said composition is in liquid form.
9. The method of claim 2 wherein said composition is administered by topical application.
10. The method of claim 9 wherein said composition contains the optically pure coenzyme Q 10 in an amount of 0.1-10%.
11. The method of claim 9 wherein said composition contains the optically pure coenzyme Q 10 in an amount of 0.25-1%.

12. The method of claim 9 wherein said composition is to be used as a cosmetic and said optically pure coenzyme Q 10 is present in an amount of 0.0001 to 0.1%.
13. The method of claim 2 wherein said pharmaceutically acceptable carrier is a vegetable oil.
14. The method of claim 9 wherein said composition is formulated as a paste, cream, ointment, gel, lotion or unguent.
15. The stereospecific optically pure trans (E) isomer of coenzyme Q 10 produced by the process of claim 1.